

Seattle Public Utilities (SPU) Water Conservation Program

Joint Legislative Task Force on Water Resource Mitigation

November 2, 2021

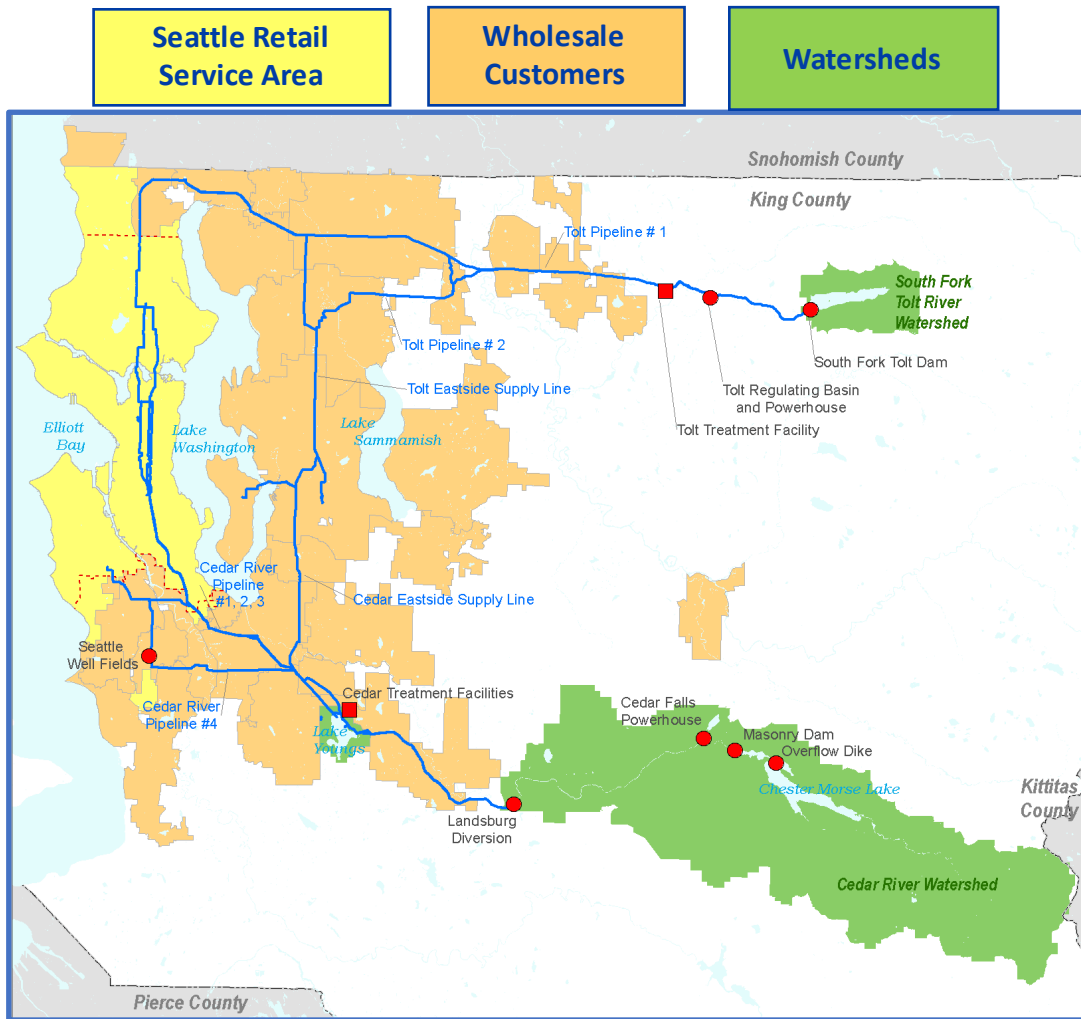
Kelly O'Rourke, Water Conservation Manager

Takeaway Messages

- Water conservation has been successful for water utilities
- The most successful programs employ multiple elements
- There are still more water conservation opportunities

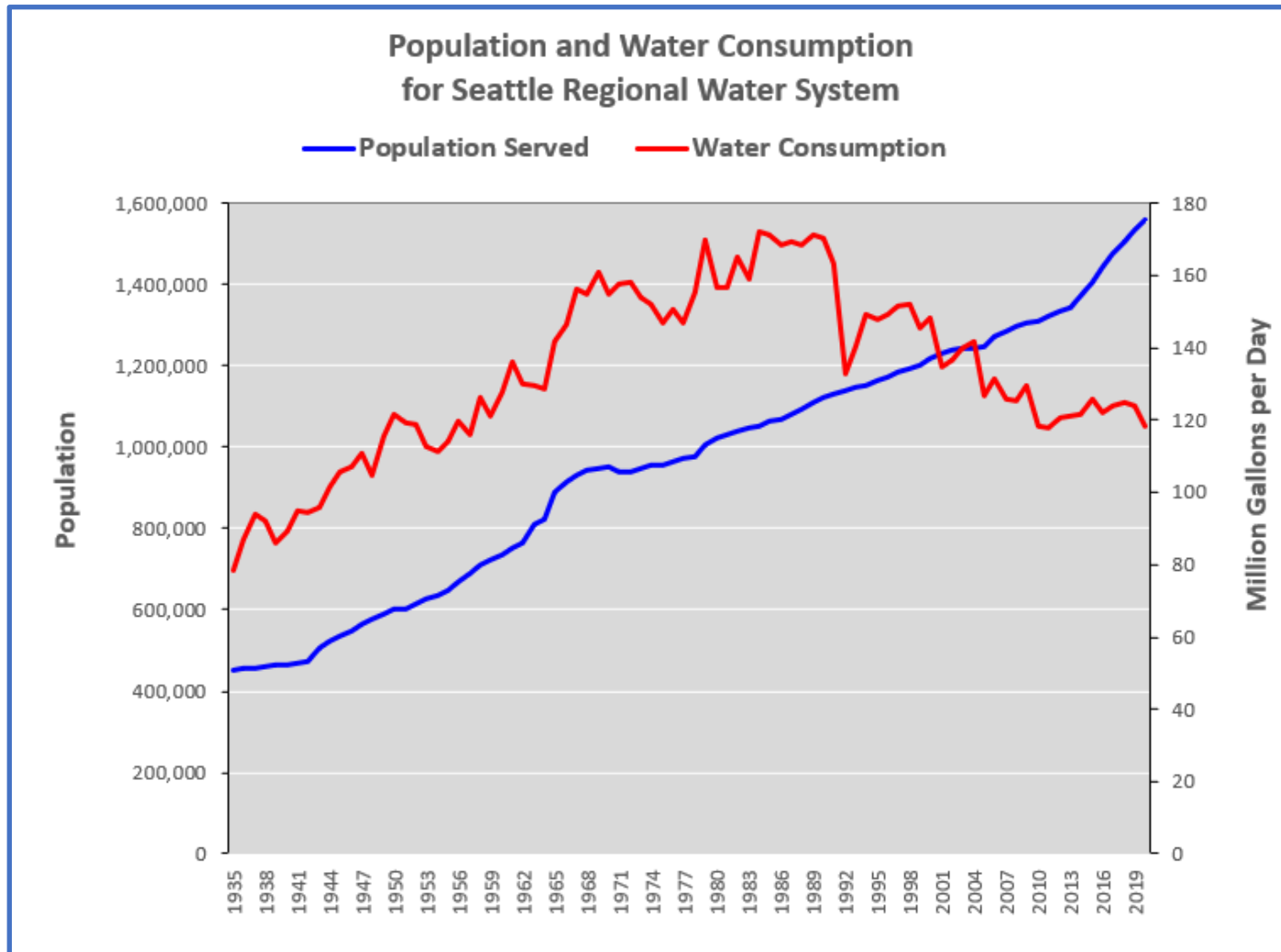


Seattle Regional Water System



- SPU owns & operates a regional water system
- Water supply + fish flows + flood control
- Retail water in Seattle
- Wholesale water to approx 2 dozen cities / water districts
- Serve 1.5 million people ($\frac{1}{2}$ Seattle retail & $\frac{1}{2}$ wholesale)

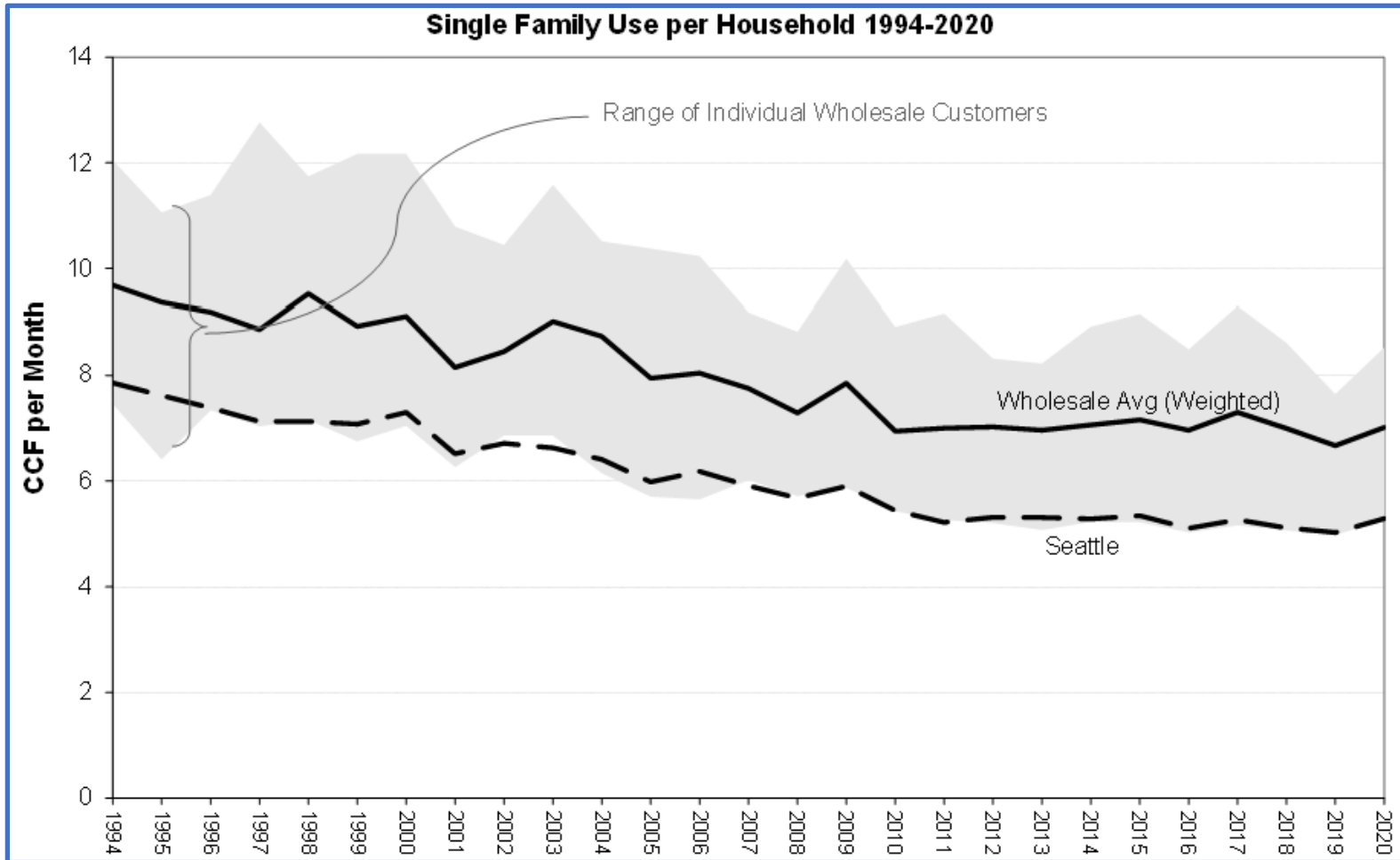
Reduced Consumption - Total System



- Population constantly increasing
- Water consumption tracked population thru 1980s
- Then water consumption “de-coupled” from population & decreased
- Now use same amount of water as in 1950s, when population was 50% less



Reduced Consumption - Single Family Households



- Seattle decreased 33%
- Wholesale average decreased 28%

4 Types of Water Conservation

1. Customer programs – utility controlled
2. Rate structure / price impacts – utility controlled
3. System operation improvements – utility controlled
4. Plumbing codes/standards – not utility controlled (unless a City)

(Conservation vs curtailment)

- Conservation: Ongoing, long-term effort to maximize water efficiency
- Curtailment: Short-term response to shortage/emergency



Customer Programs (1)

- Regional program
- 19 participating water utilities

Cedar River Water and Sewer District

City of Bothell

City of Duvall

City of Mercer Island

City of North Bend

City of Renton

Coal Creek Utility District

Highline Water District

North City Water District

Northshore Utility District

Olympic View Water & Sewer District

Seattle Public Utilities

Soos Creek Water and Sewer District

Water District 20

Water District 49

Water District 90

Water District 119

Water District 125

Woodinville Water District

- Branded as “Saving Water Partnership”

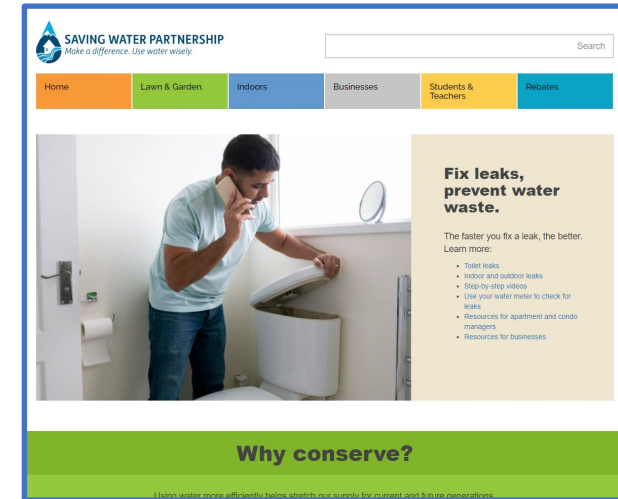


Savingwater.org



Customer Programs (2)

- Purpose of program:
 - Customers use efficient hardware
 - Customers have efficient behavior
- 3-pronged strategy:
 - Education
 - Technical assistance
 - Financial assistance
- All sectors: residential & commercial



Customer Programs (3)

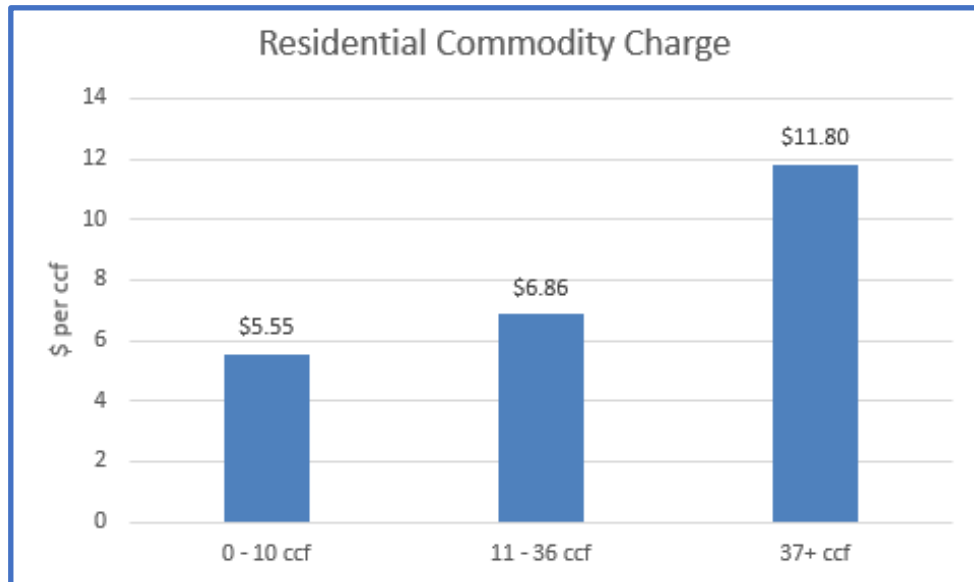
- Dedicated website (savingwater.org)
- Youth education school programs
- Community events
- Leak outreach & kits
- Natural yard care brochures
- Onsite water use & irrigation consultations
- How-to-videos
- Gardening classes for general public
- Training for landscape professionals
- Rebates: Most water using fixture/equipment
- Free toilets/installation – Seattle low income only



Rate Structure & Price Impacts

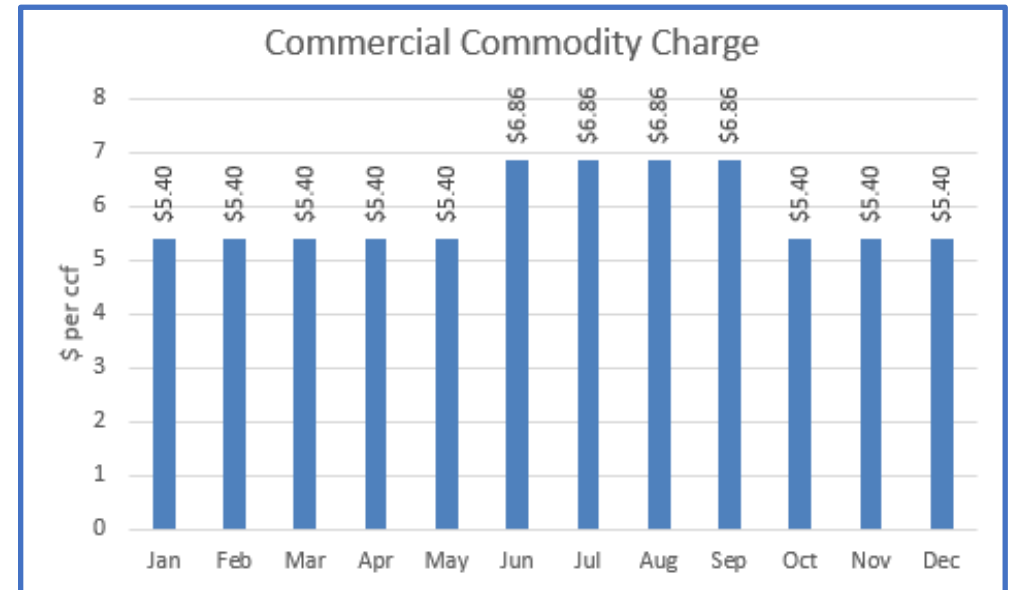
- Residential

- Inclining block rate structure (in summer)
- Charge more per unit, the more is used



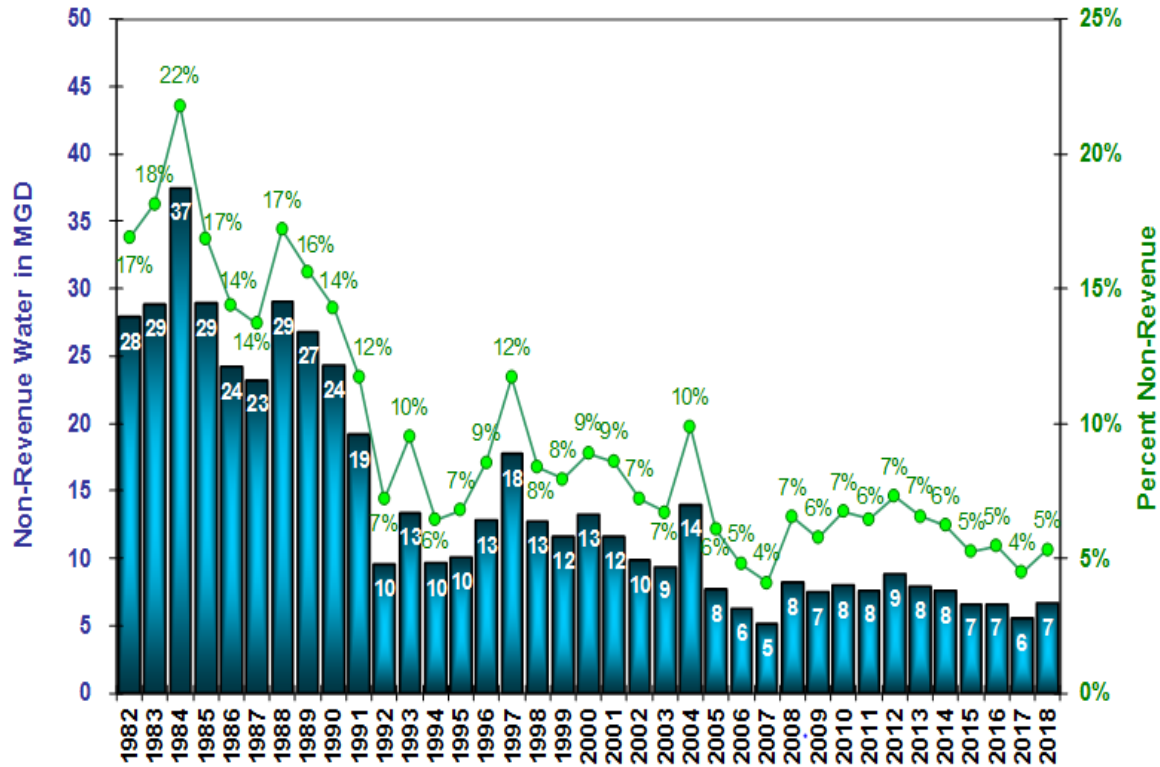
- Commercial

- Seasonal rate structure
- Charge more in the summer



System Operation Improvements

Total System Non-Revenue Water: 1982-2018
(in MGD and as a Percent of Total System Water Use)



- Non-Revenue Water

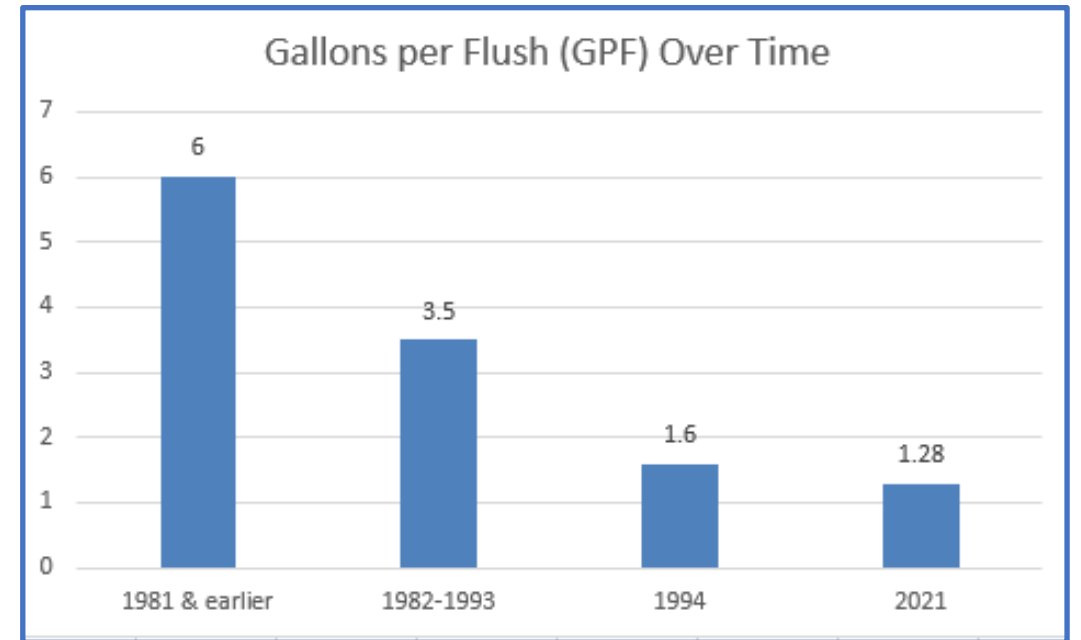
- Good barometer
- Production minus sales
- Leaks, but also “authorized uses” such as fire fighting
- 1980s was 14-22%
- Currently approx. 5%

- Reduction Successes

- **System Operations:** addressed reservoir overflows, more efficient reservoir cleaning
- **Leaks:** lined leaky reservoirs, leak detection on pipes
- **Covered Open Reservoirs:** mostly for security; but also less frequent cleaning & less evaporation

Plumbing Codes / Standards

- All new construction (& retrofits) are more efficient
- Toilet example
 - 1994 federal code 1.6 gpf
 - 2021 WA state code 1.28 gpf



Future Opportunities

1. Customer programs

- Metering technology to monitor use & leak alerts (utility Advanced Metering Infrastructure or customer whole-home flow monitoring devices)
- Landscaping water – although can be challenging to achieve
- Commercial indoor – although can be challenging to achieve

2. Rate structure / price impacts

- Improvement opportunities for some utilities

3. System operation improvements

- Improvement opportunities for some utilities (State funding could help)

4. Plumbing codes/standards

- Sub-metering for multifamily
- Landscape requirements (soil, plants, irrigation equipment)



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